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## Space Planning Guide for New or Remodeled Homes

Ruth Hutcheson

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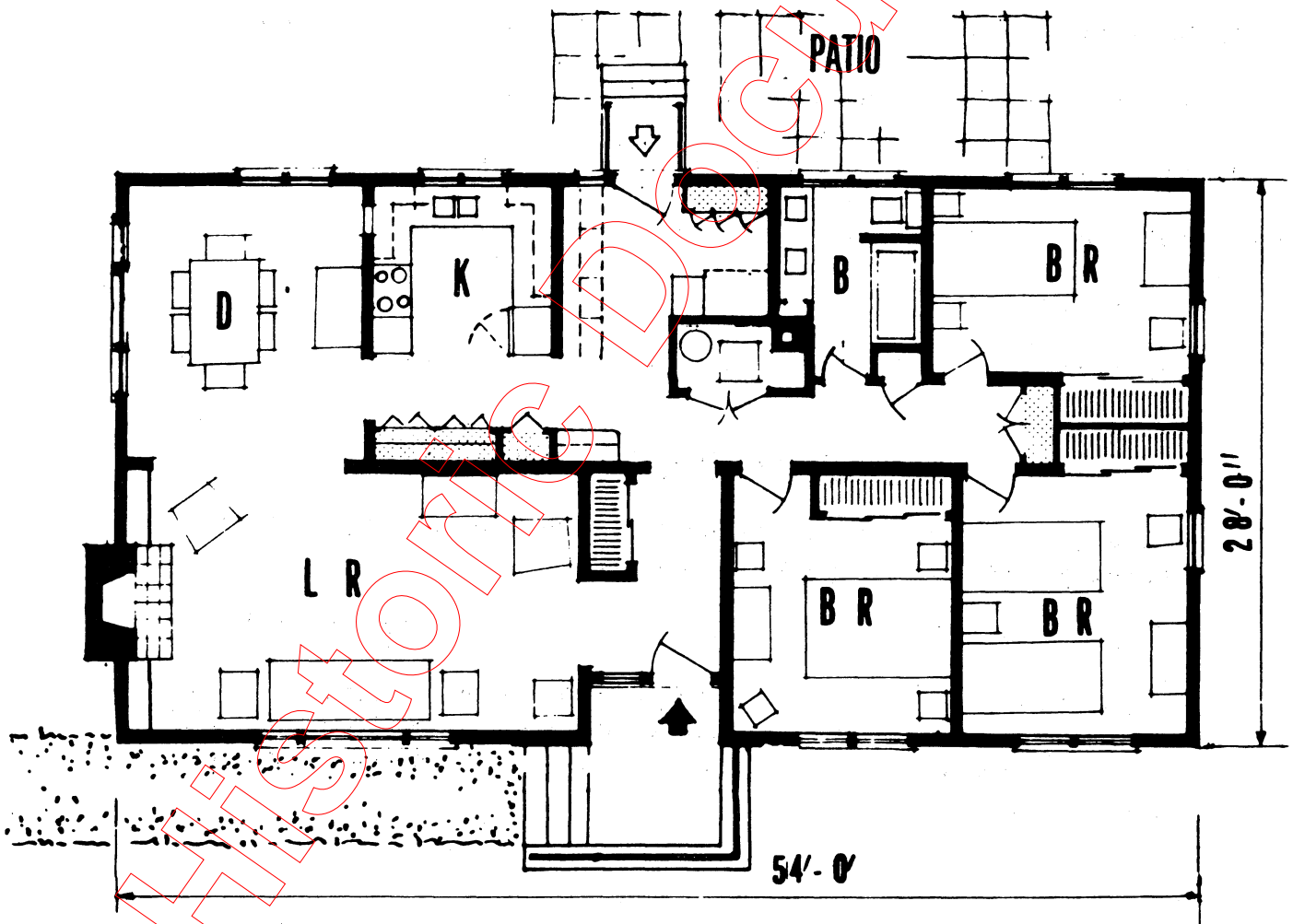
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Revised 1968  
*Jan.*

*Replaces one dated April 1964*

# *Space Planning Guide*

## *for New or Remodeled Homes*



# SPACE PLANNING GUIDE FOR NEW OR REMODELED HOMES

By Ruth Hutcheson, Extension Housing Specialist

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## THREE LEVELS OF PLANNING

These guides are offered to help delineate three levels of adequacy in use of enclosed space. These levels are called, simply:

Limited (Good)

Medium (Better)

Liberal (Best)

In addition to plans, sketches and diagrams devised by the author, drawings and plans were used from Landscape Architecture, Purdue University, Midwest Plan Service, American Standard Company, and Agricultural Research Service, USDA.

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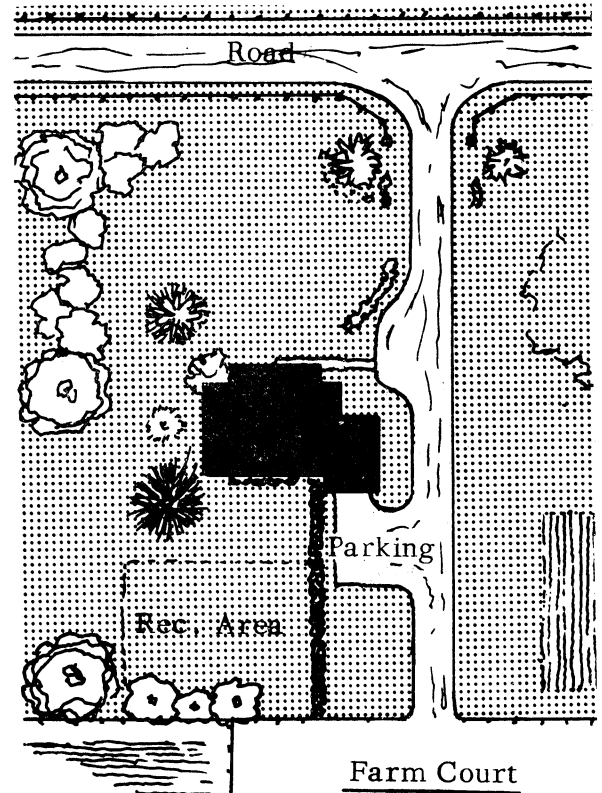
Cooperative Extension Work in Agriculture and Home Economics, State of Indiana, Purdue University, and U.S. Department of Agriculture Cooperating, H. G. Diesslin, Director, Lafayette, Indiana. Issued in furtherance of the acts of May 8, and June 30, 1914.

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## VISUALIZE LOCATION AND ORIENTATION OF NEW OR REMODELED HOUSE

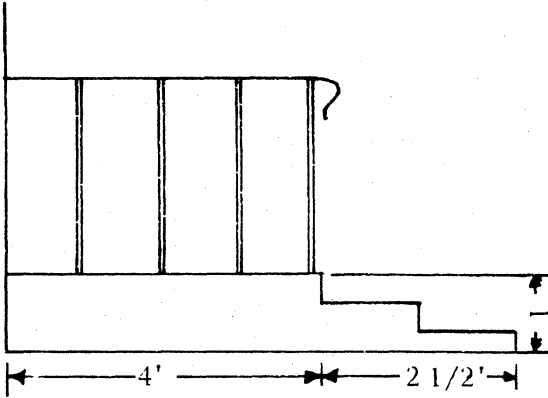
Begin by taking a long, observant look at your house and grounds area as you approach it, slowly, along the roadway or street to your place. Try to see the total house area as a stranger might look at it. Observe conditions and over-all appearance of the house (structure to be remodeled or the site for the new house) in relation to its setting among trees, service buildings or neighboring houses.

- A. Locate the rural house as much as 100 feet from the road for spaciousness and pleasant setting.
- B. Relate farmhouse to farm buildings, if any, so that other buildings are to the rear of the house and in a direction other than that of the prevailing summer winds (to prevent annoyance from odors).
- C. Locate the living area to take advantage of pleasant views in each season of year.
- D. Locate sleeping area:
  1. Toward direction of prevailing summer winds.
  2. Away from noises of highway or farmstead whenever possible.
- E. Establish work area for view of and easy access to:
  1. Children's play yard.
  2. Driveway and garage.
  3. Farmstead court, if house is on a farm.
- F. Provide easy access from house to:
  1. Entrance drive for:  
Visitors using front door.  
Everyday use by family.  
For safety and convenience locate drive 20 to 40 feet or more from house; make driveway wide enough for cars to pass.  
Provide space to park and turn near front door. (This requires 40' to outside edge of 10' drive)
  2. Garage:  
More related in use to dwelling than to any service building; locate near house, attached to house, or as part of house.  
Make garage entrance at right angle to drive or at rear of garage to pre-



vent view of "yawning" open doorway from house and road. (40'-0" from garage doors to outside edge of drive to allow backing and turning)

Enter garage from house through workroom, back entry or breezeway when possible.



3. Walks: Locate walks for comfort and convenience to driveway, guest parking area, garage or farm buildings.

Service walks 3' wide.

Walk from front door to driveway 5' wide.

Keep inner edge of walk 5' out from side of house.

4. Service lawn: Access to service area at the rear of the house for:

Clothes lines.

Fuel delivery or water conditioning equipment.

Entrance of electric service lines from load-center pole or meter pole.

Well housing (and cistern where necessary).

Locating septic tank for easy connection to both sewage line from house and available location for disposal field.

Locating septic tank at least 50' from well.

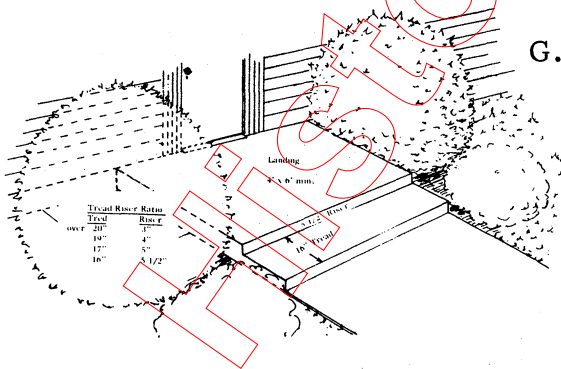
Locating disposal field at least 100' from well.

5. Lawn and garden area:

At side or rear of house for relaxation and play.

#### G. Provide safe landings and steps:

1. Entrance porches, landings or platforms require: Minimum size of 4'-0" x 6'-0". Very few landings of this small size will be in scale with bulk of houses.  
Railing or guard when entrance floors are 12" or more above finished grade.



2. Outside steps from landing necessary to get transition from inside to outside. When possible use 5 1/2" riser to 16" tread (depth) for such steps. Otherwise use 6" riser and 12" tread (depth).

## MAKE ENTRANCES AND TRAFFIC LANES ACCESSIBLE

### A. Provide 3 entrances, when possible:

1. Public entrance.
2. Service entrance near but not into kitchen.
3. Living area entrance from outdoor living area.

### B. Protect exterior door from weather by:

1. Porch
2. Overhang
3. Recessed door location

### C. Exterior entrance doors: 2'8" to 3' x 6'8" or 7'.

These sizes provide easy passage for tall people, and large equipment in common use, and conform to tradition and design requirements.

### D. 1. Use back entry or rear hall or arrangement of doors that permit people to reach kitchen, workroom, basement stairs and living rooms without interfering with housework.

2. Use vestibule, guest entry hall or foyer to avoid direct entrance from out-of-doors into living area.

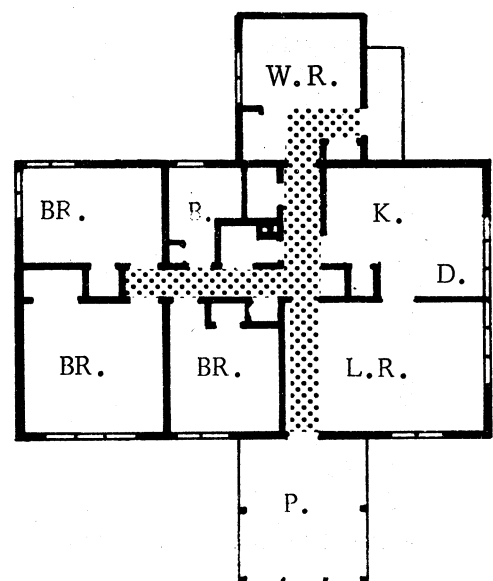
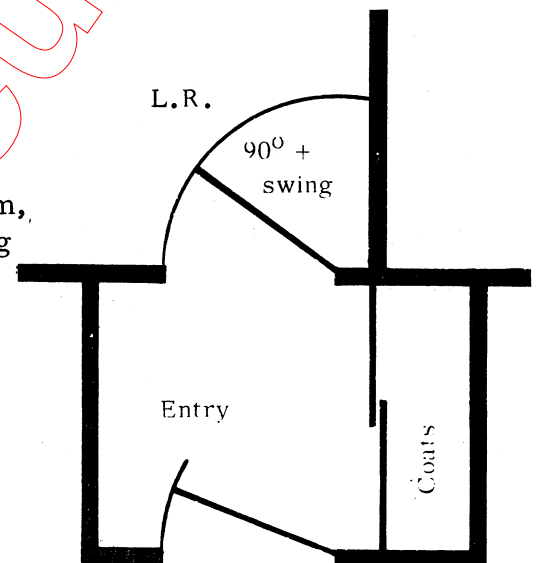
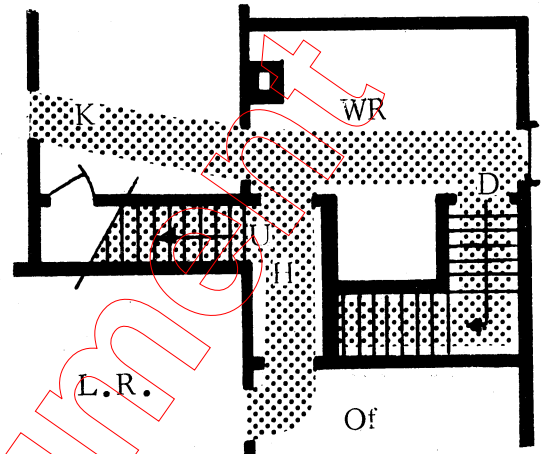
### E. Partition doors: 2'6" or 2'8" x 6'8". These openings are sufficient to accommodate most furnishings and equipment that must move through them. The 6'8" height or trimline for uniform door and window height helps maintain unity of appearance in room interiors as well as exterior appearance.

### F. Locate doors near room corners to:

1. Form short traffic patterns.
2. Prevent traffic through activity centers.
3. Reduce door swing to 90° (1/2 the space required on continuous wall).

### I. Provide access from each habitable room to each other habitable room, and to a bathroom or compartment containing water closet and lavatory, without passing through a bedroom.

### H. Keep total of all passage ways to 20% or less of interior floor space.



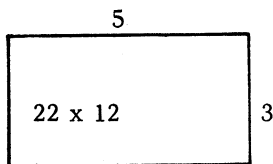
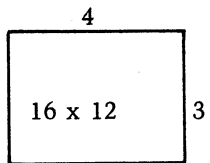
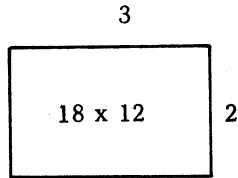
## ACTIVITY AREA: RECREATION

Whether the recreation area is limited to either living room, or family room, or includes both types of rooms, each room should meet one of the following levels of space requirements.

### A. Living Room

1. An oblong living area is easier to furnish attractively and conveniently than a square one. The size needed will vary with type and amount of furnishings, kind of entertaining done and everyday use of living area. Nice proportions for width and length of living room: 2 to 3, 3 to 5, 3 to 4.

2. If major traffic lane crosses end of living room there is at least 3'-0" less of space for living.



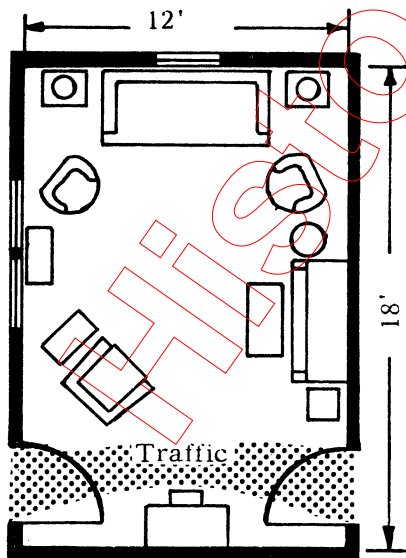
**B. The Family Room:** This space serves various combinations of uses, such as: "everyday" living room, noisy activity center, TV room, child-proof play space, and space for informal meals.

1. Locate family room next to --or combine with--the kitchen for big dividends in family satisfaction. Avoid locating any other room between the family room and kitchen.

2. Relate family room to rear entrance or separate garden or patio entrance for indoor-outdoor living.

3. Provide free space for active recreation.

4. Provide well-organized storage near place of use.



Limited: a. Size: 12'-0" is the least functional dimension for living area.

### b. Wall spaces:

1. Two unbroken wall spaces 6' in length.
2. At least 2 adjoining walls unbroken by passageways to rooms.

### c. Doors:

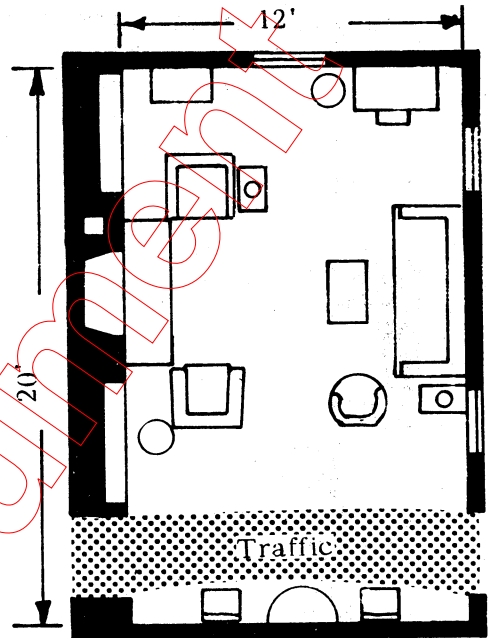
1. Near corners of area.
2. Doors opening at 90° angles.
3. No direct entrance to living area from out-of-doors.

### d. Traffic lanes:

1. Confined to one corner of area, or
2. Confined to one end of area.

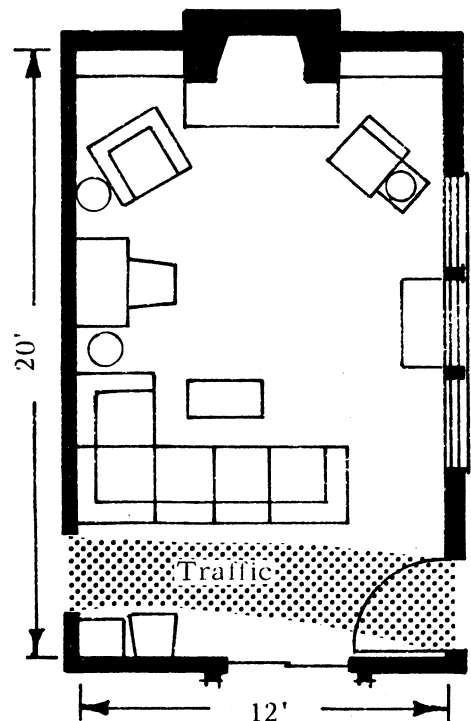


- e. Windows:
  1. Total glass area 15% to 25% of floor area.
  2. Ventilating area, which can be opened, 10% of floor area.
  3. Windows in two walls of living room.
- f. Fireplace:
  1. Fireplace (in limited space) inadvisable except when required as source of heat.
  2. See requirements under Medium.
- g. Storage: Coat closet readily accessible to living room, near guest entrance. Same minimum depth and equipment as reach-in bedroom closets.



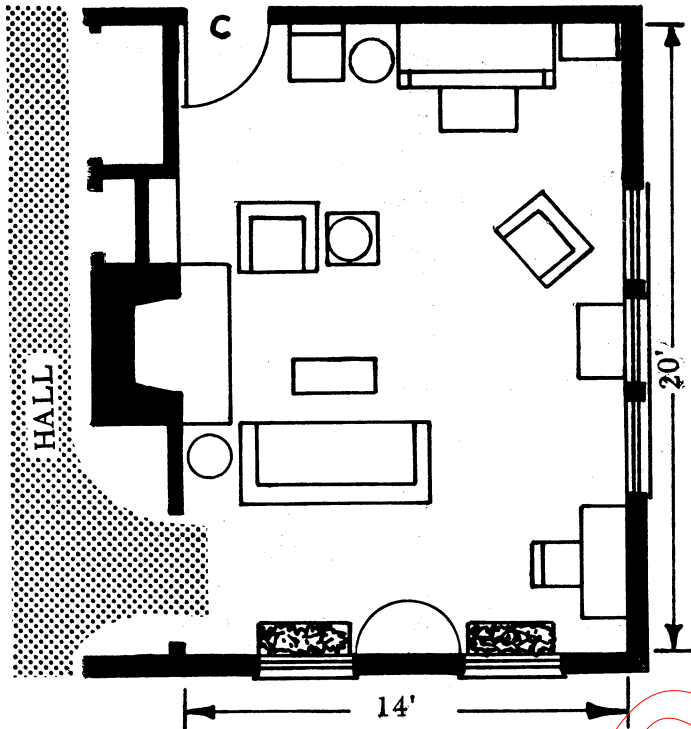
Medium:

- a. Size: 12' -0" to 14' -0" as least dimension of living area.
- b. Wall space:
  1. Two unbroken wall spaces 6' to 8' long.
  2. At least 2 adjoining walls unbroken by passageways.
- c. Doors:
  1. Follow standards set up for Limited.
- d. Traffic lanes:
  1. Follow standards set up for Limited.
- e. Windows:
  1. Follow standards set up for Limited.
- f. Fireplace:
  1. Fireplace optional.
  2. Six-foot wall space unbroken by passageway on either side of fireplace to allow furniture grouping.
- g. Storage:
  1. Coat closet. Follow standards set up for Limited.
  2. 3' x 16" to 24" shallow enclosed storage for articles used in living area, equipped with drawers, shelves and/or trays.





Liberal:



a. Size: 14' -0" as least living area dimension.

b. Wall space:

1. Two unbroken wall spaces 8' to 10' long.
2. Two adjoining walls unbroken by passageway to rooms.

c. Doors: Same as for Limited.

d. Traffic lanes: Same as for Limited. In addition, provide foyer or vestibule at guest entrance.

e. Windows: Same as for Limited, plus additional windows if climatic conditions and views permit.

f. Fireplace: Optional. Same as for Medium.

g. Storage:

1. Coat closet 4' x 2' readily accessible to living room and near front entrance. Same depth and equipment as bedroom closets.
2. At least 3' x 6" to 24" shallow enclosed storage for hi-fi and/or TV equipment, and articles used in living area. Fit such spaces with drawers, trays and shelves.
3. At least 3' x 8" or 12" shallow, open shelves for books and magazines.

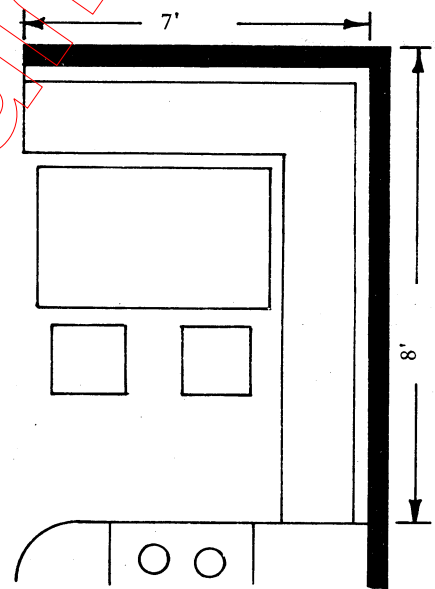
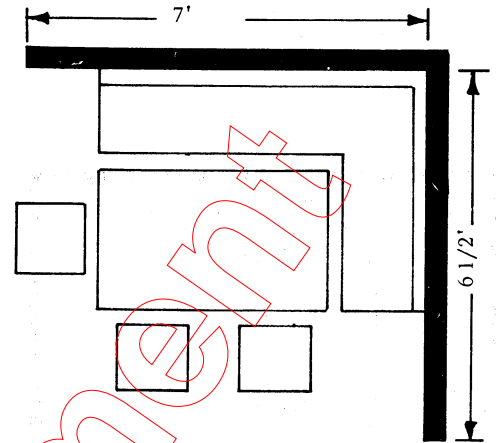
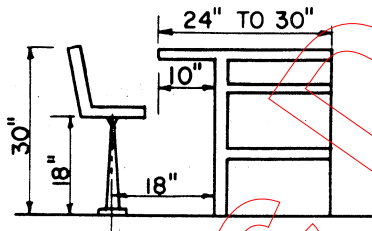
C. Dining Room or Dining Space

Space for serving regular family meals must accommodate at least family and 2 guests at the table. Such space may be provided several ways:

1. In the kitchen.
2. In dinette or alcove adjacent to kitchen.
3. In combined living-dining space.
4. In dining room.
5. For living, dining, kitchen space if combined in one room, provide not less than 300 square feet floor area with minimum width of room not less than 11'4" (inside dimension).
6. Any porch used for dining should be screened, convenient to kitchen, and at least 7'4" wide (inside dimension).
7. Doorways from dining room should permit direct passage to both kitchen and living room.

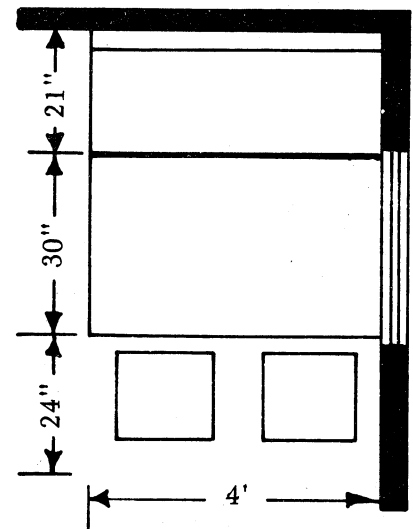
Limited:

- a. Dining space for seating at least 6 persons at 30" wide table. This table width does not allow for placement of serving dishes.
- b. Allow 21" per person at table. (Minimum cover size: 21" wide x 15" deep.)
- c. Allow space of 7' x 7 1/2' if area is confined on 2 sides by walls or other obstructions (but free on other 2 sides).
- d. Where a bench is used (at one side, one end or adjacent side and end) space may be reduced by 6".
- e. Where area is confined on 3 sides, add 1 foot to the dimension between opposite walls.
- f. Minimum of 2'-0" between edge of dining table and wall allows only for seating.

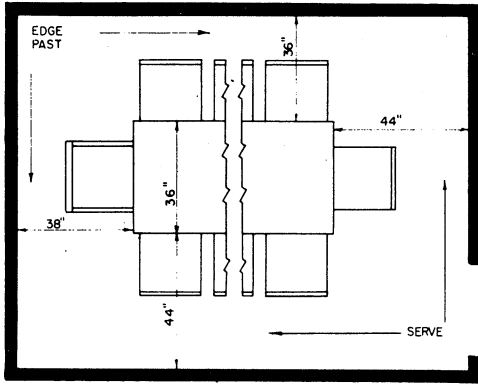


Medium: Dinette or alcove, or living-dining room space for 8 persons at 36" or 40" wide table.

- a. Commonly used table width is 3'-14" (40") (36" width allows 6" for placing serving dishes).
- b. 24" required for each place at table. (Cover size: 24" width x 15" depth)
- c. 2'6" required to push back chair with comfort; 3'-0" to edge past seated person.
- d. If area is enclosed on both sides and one end: 10'-6" x 8'-4".
- e. If snack bar is used to supplement table space for dining, allow minimum of 10" counter overhang to provide knee space. Use chair height stools with back supports.



**Liberal:** 11'4" width (narrow dimension) for a separate dining room that will accommodate a full-size table, chairs and other furniture.



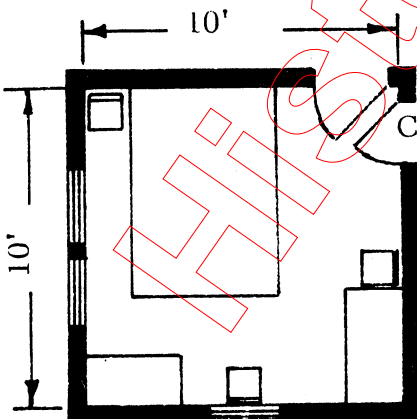
- For service for 8, necessary length of dining room amounts to 13'; for service for 10 at least 15' -4" length.
- 36" to 48" width of rectangular dining room tables. (Round tables: 42", 48" or 54")
- 38" to 40" or 42" most-used widths of tables. (42" width allows 13" for placing serving dishes.)
- 24" to 29" space for each place setting.
- 44" clearance between tables and other furniture, or table and wall, for seating, passing by and serving.

#### **QUIET AND PRIVACY AREA REQUIREMENTS:**

**I. SLEEPING AREAS:** A family of parents and children of both sexes requires at least three separate sleeping areas to meet acceptable standards of privacy. Any plan having two or less sleeping areas should be planned so that one or more additional areas may be added if needed.

**Location:** In one-story house all sleeping areas grouped together around hall space. Group together all bedrooms located on any one floor level for:

- Efficient use of storage space, hallway and bathroom.
- Freedom from any through traffic.
- Increased privacy and quiet.
- Easier cleaning and care.



#### **Limited:**

##### **1. Room Size:**

120 square feet each for one sleeping area exclusive of closet space.  
100 square feet each for additional sleeping areas exclusive of closet space.

##### **2. Storage:**

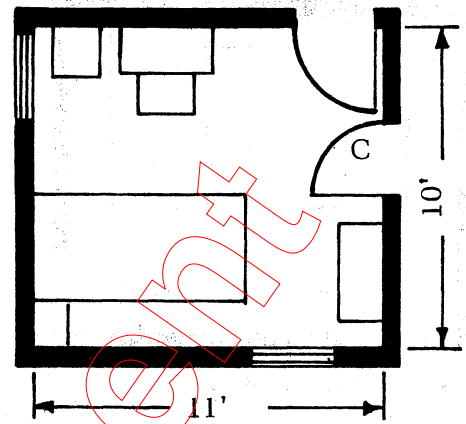
One reach-in clothes closet for each sleeping area having a minimum of 4' -0" hanger rod per person, as set up in section D. Storage Spaces.

##### **3. Wall Space and Openings:**

Minimum furniture for each sleeping area: 1 chest of drawers set in or built in, 1 bed, 1 chair.

One unbroken wall space for bed: 6' x 7' for double bed, 5' x 7' for twin bed. This includes 18" passageway.

Install doors to all sleeping areas for privacy. Open each sleeping area into a hall leading to bathroom. Only one doorway to each sleeping area. Provide ventilating window area equal to 10% of floor space in each bedroom.



#### Medium:

##### 1. Room Size:

120 square feet each for two bedrooms exclusive of closet space.

100 square feet for each additional sleeping area exclusive of closet space.

##### 2. Storage:

One reach-in or walk-in clothes closet having 4' -0" hanger rod per person as set up in section D.

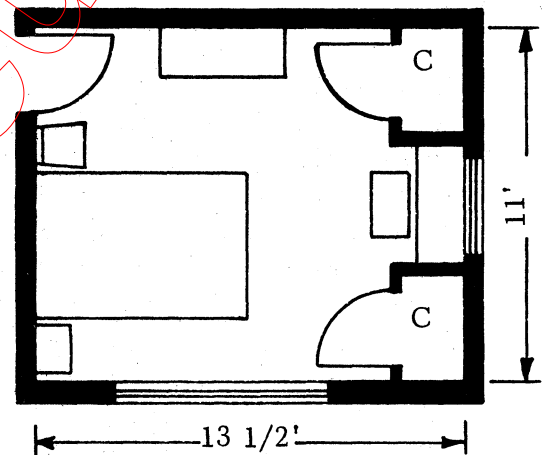
##### Storage Spaces.

##### 3. Wall Space and Openings:

Two unbroken wall spaces for bed:

6' x 7' for double bed, 5' x 7' for one twin bed, including passageway along one side.

Two ventilating windows in each bedroom, preferably in two different walls. A high, short window group may be used to provide unbroken wall space along one wall.



Open each bedroom on a hall leading to bathroom. Install doors.

Avoid connecting doorways between bedrooms.

#### Liberal:

##### 1. Room Size:

140 square feet for one bedroom.

120 square feet for next two bedrooms.

100 square feet for any additional sleeping areas.

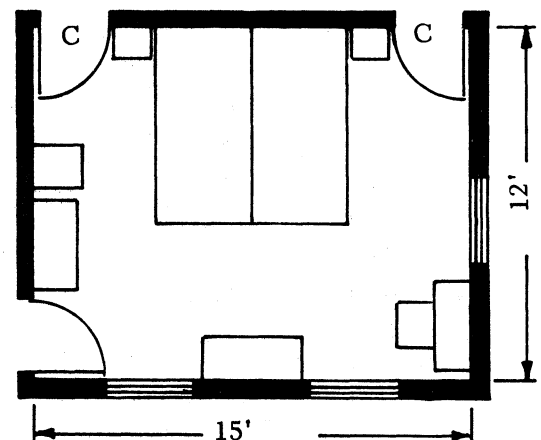
##### 2. Storage:

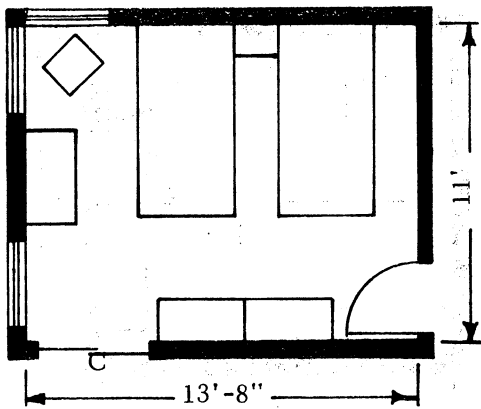
4 feet to 6 feet of hanger-rod per person supplied by:

2 reach-in closets per bedroom, or

1 two-rod-walk-in closet per bedroom.

Refer to section on Storage Spaces.





- \* 1 floor-to-ceiling stack composed of:
  - 4 foot stack of drawer and/or trays
  - enclosed shelves above drawer and tray space.

### 3. Wall Space and Openings:

Two unbroken wall spaces for bed and passageway.  
6' x 7' for double bed; 10' x 7' for twin beds.

Door to bedroom opening on hall.

Two bedrooms having window groups in two different walls. Two or more ventilating windows in each bedroom.

## II. BATHROOM SPACE PLANNING GUIDES:

Check list for bathrooms:

- \* First bathroom located on main floor of house near bedrooms and stairway.
- \* Additional wash-up space or utility bath in work area near family entrance.
- \* Only one bathroom door --opening on hall.
- \* No fixtures visible from living area.
- \* One ventilating window or exhaust fan required.
- \* Fixtures placed for convenience of use rather than economy of plumbing alone.
- \* Avoid placing tub under window.
- \* Tub installed for access to plumbing fittings (for repair).
- \* Storage in bathroom for supplies, towels, cosmetics and medicines.
- \* Space in front of any fixture:
  - 2' between front of fixture and facing wall.
  - 18" between fronts of lavatory and water closet.
- \* Space at sides of fixture:
  - 3" between any two fixtures.
  - 6" between lavatory or closet tank and wall.
- \* Electric outlets beyond reach from tub or shower.

Limited:

### 1. Space:

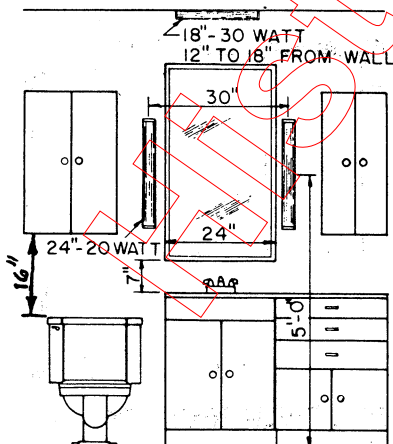
Minimum of 25 square feet (5' x 5' or 5'-6" x 5'-6", or 4'-2" x 6'-8") for water closet, lavatory and shower stall installation.

As much as 35 square feet (5' x 7', 6'-6" x 5'-6") for water closet, lavatory and tub installation.

- ### 2. Arrangement: All fixtures along one wall for economy of plumbing is desirable.

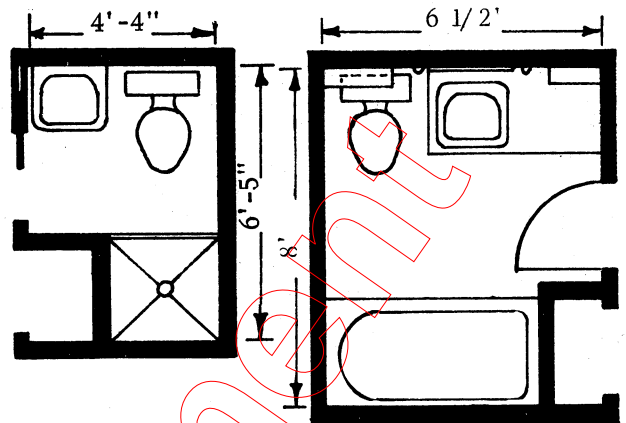
### 3. Fixtures:

Tub 5' -0" x 2' -6" or standard shower stall 30", 32" 34" or 36" square.



Water closet 2' -0" x 2' -3" front to back  
Lavatory 20" wide x 18" deep front to back

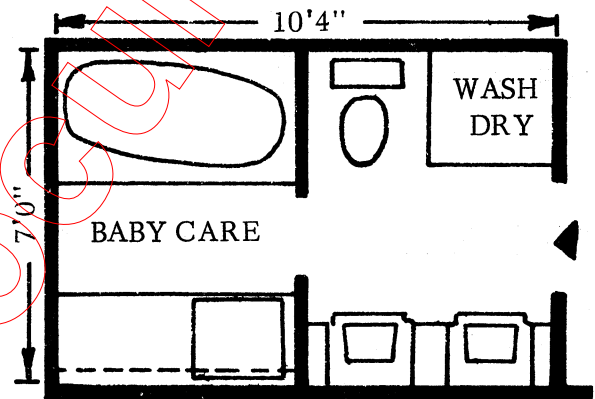
4. Storage:  
 3 shelves 12" deep x 2' -0" wide--located anywhere inside bathroom, above water closet tank is suggested. Shelves either open or enclosed in cabinet. Lower shelf 16" above tank top allows easy access for tank repair.  
 Traditional medicine cabinet optional.



#### Medium:

1. Space: 40 to 50 square feet (5' x 8', 6' x 7', 6' x 8', or 7' x 7')
2. Arrangement: Free-standing counter-top lavatory cabinet or built-in dressing table with lavatory.
3. Fixtures:  
 Rectangular tub and shower combination (4'-6" to 5'-6" x 2'-6" or 2'-8" or square type 3'-2" x 3'-3")

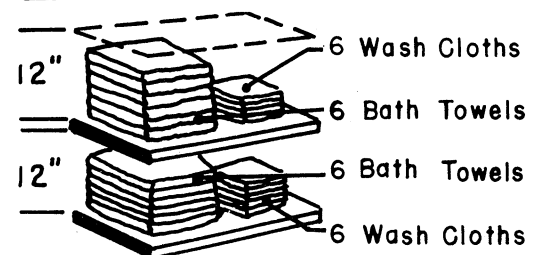
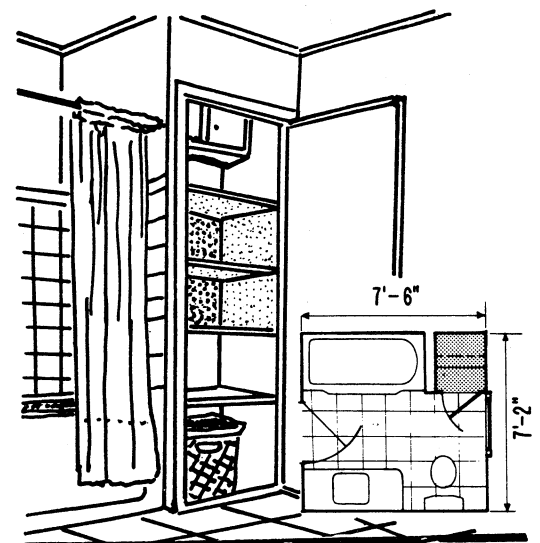
Water closet allow 2'-6" x 4'-0" space.  
Lavatory 20" x 18", 24" x 20"; in cabinet 32" to 48" wide x 18" to 24" deep.



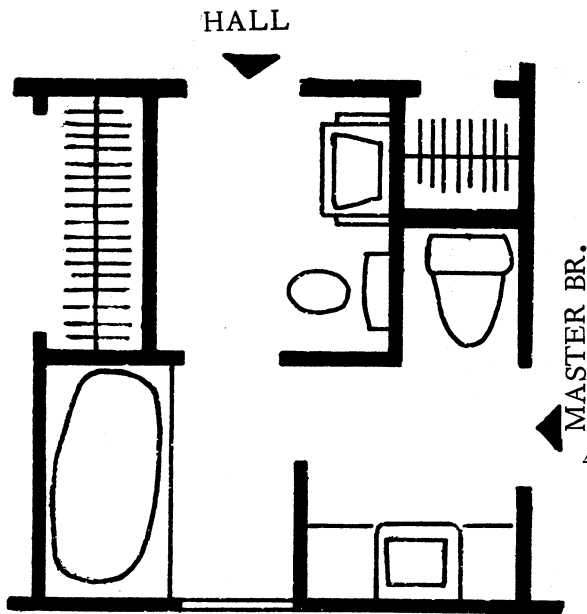
4. Storage:  
 One stack of enclosed shelves in floor to ceiling cabinet -- 12" by 18" wide by 7'-0" high. Bottom section may be clothes chute or laundry hamper on casters. Central section for towels, supplies and cosmetics. Top section may be separate for medicine chest with locked doors.  
 Additional storage as in Limited above is often desirable.

#### Liberal:

1. Space: 50 to 120 square feet.
2. Arrangement: Large bath or divided bathroom. (Maybe 2 or 3 separate compartments yielding 1 1/2-2 baths).
3. Fixtures:  
 Rectangular tub sizes: 5'-0" to 6'-0" x 2'-6", 2'-8" or 2'-11".  
 Square tub sizes: 3'-2" x 3'-3" to 4'-1 1/2" x 4'-0".  
 Shower combined with or separate from tub -- 3' x 3' or custom built sizes up to 3' x 6'.







Water closet 2' -0" x 2'-6". Two separate compartments will provide toilet facilities for greater privacy.

Lavatory cabinet 18" to 2'-0" depth x 4' -0" to 6'-0" width.

Frequently twin lavatories centered 30" apart are used. Provide 2'-0" to 4'-0" clearance in front of fixtures.

Install mirror over counter area.

Light lavatory counter area with shield fixtures designed for comfortable lighting of user's face.

#### 4. Storage:

Lavatory cabinet--shelves, trays, drawers.

Shallow cabinet or closet - 12" to 18" deep by 18" to 2'-0" wide x 7'-0" high (or below and above counter top as in kitchen cabinet work).

Additional storage described under Limited and Medium.

### III. STORAGE SPACES IN QUIET AND PRIVACY AREA

#### Objectives:

Well planned storage spaces:

Add to efficiency and comfort of family.

Help keep possessions in good condition.

Promote easy-to-clean house.

Teach habits of orderliness and respect for property.

Pay big returns in family satisfaction.

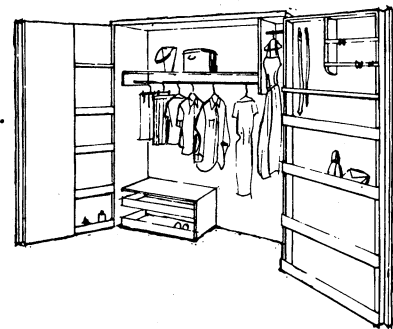
#### Locate Storage Facilities so that each unit:

Is easy to see, reach and grasp.

Is at point of first use.

Makes efficient use of space.

Does not interfere with any other activity.



#### Cautions in Arranging Facilities for Storage:

Useable storage spaces will be within 7' -0" of finished floor to be within reach.

Space between 7' -0" height and ceiling should be enclosed. Such space may be (a) furred down from ceiling and finished to match other wall surfaces, or (b) finished with doors for storage of seldom used articles (inactive storage).

Avoid projection of closet corners into rooms (indicates poor design).

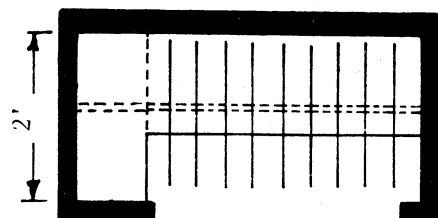
#### A. What is stored in clothes closets:

##### 1. Personal clothing

Coats, dresses, suits, shirts, blouses, robes, children's clothing.

Accessories such as hats, shoes, purses, belts.

Underclothing.



Reach-In Closet

2. Extra bedding for the room such as extra blankets.
3. Luggage.
4. Miscellaneous items such as hobby equipment.

**B. Where to locate clothes closets**

1. Personal clothing in each bedroom
2. Work clothes near back door (see page 5)
3. Guest wraps near front entrance (see page 5).

**C. How to plan personal clothing storage**

1. Reach-in closets - 2'-0" to 2'-4" deep, front to back.

As wide as desired, commonly 4'-0" or more  
 Door opening on wide side  
 Double doors if closet is 5'-0" or wider  
 Shelf 5'-6" above closet floor; second shelf desirable.

Hanger rod: rod length per person, 4' minimum  
 --1/2" to 1" galvanized iron pipe  
 --3" below shelf (63" above floor of closet)  
 --adjustable rod heights for child's closet

Stack of shelves at one end or between two hanger sections

2. Walk-in closets -- 4'-0" deep, front to back:

- a. Two rod walk-in: (4'-0" or more deep x 6'-0" width)

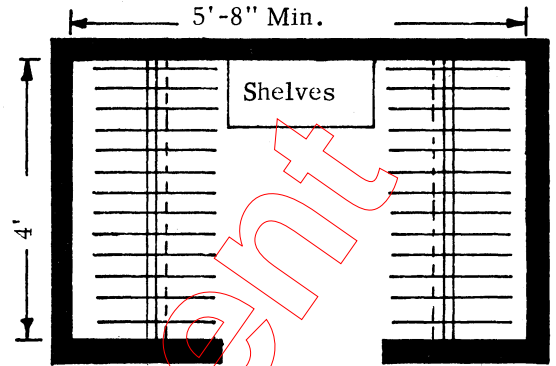
--1 hanger rod either side of door (at least 4' per person)  
 --2'-0" width for passage between hanger sections  
 --2 shelves over rods  
 --hanger rods 63" above floor of closet (adjustable rod heights for child's closet)  
 --floor to ceiling stack of shelves at back of closet, between hanger sections for shoe and accessory storage  
 --hooks near door, 4" below shelf, 7" apart

- b. One rod walk-in: (4'-0" width x 4'-0" depth)

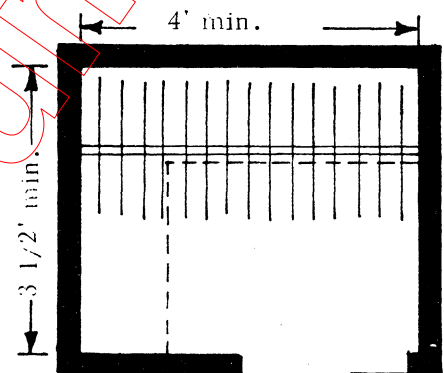
--1 hanger rod across back of closet and/or along one side  
 --2 shelves over hanger section  
 --stack of shallow shelves beside door for shoe storage and accessories

- c. Narrow deep closets (a variation of walk-in type)

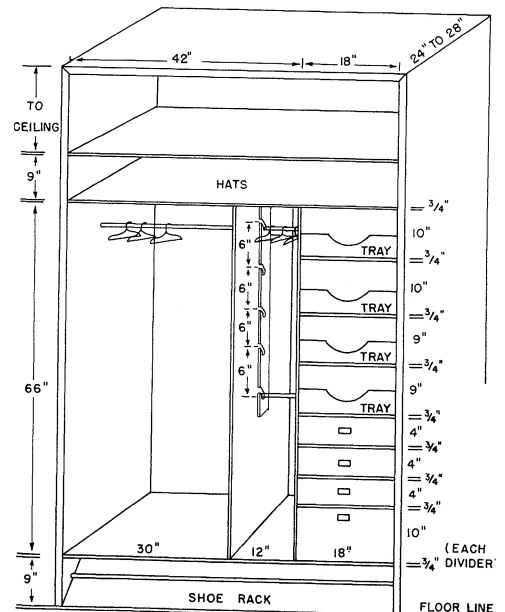
--quite deep but usually 3'-0" or less in width

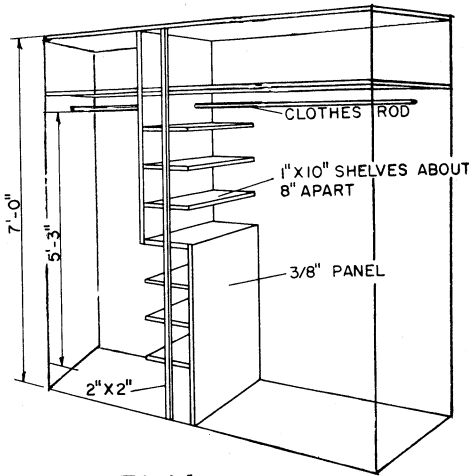


Two-Rod Walk in Closet



One-Rod Walk-in Closet





Closet Divider

- only wide enough for 1 hanger section
- install hanger rod from back to front
- stack of shallow shelves in back of closet

3. Shallow closet or cabinet--less than 2'-0" deep, front to back:

Very shallow closet is less than 24" deep but is often wide enough for one or two hanger rods with clearance. An extension rod is used to pull each hanger section forward into the room for easy access to clothing.

4. Special dimension storage (16" to 2'-0" deep by width desired)

Fitted with shelves, trays, drawers, hooks, dividers, racks, and/or separate compartments to accommodate equipment of unusual size or shape, such as ironing board, sewing machine, patterns, findings, clothes hamper or hobby equipment.

#### IV. HALLWAY IN QUIET AND PRIVACY AREA

Location: Hall should connect bedrooms and bath and provide easy access to stairway, living area, and work area.

Size: Keep hallway short, narrow and direct for convenience and easy upkeep.

Width: 3'-4" to 4'-0"

Miscellaneous Uses: Access to reach-in closet for seasonal storage of clothes. Access to reach-in closets for cleaning equipment and hobby storage.

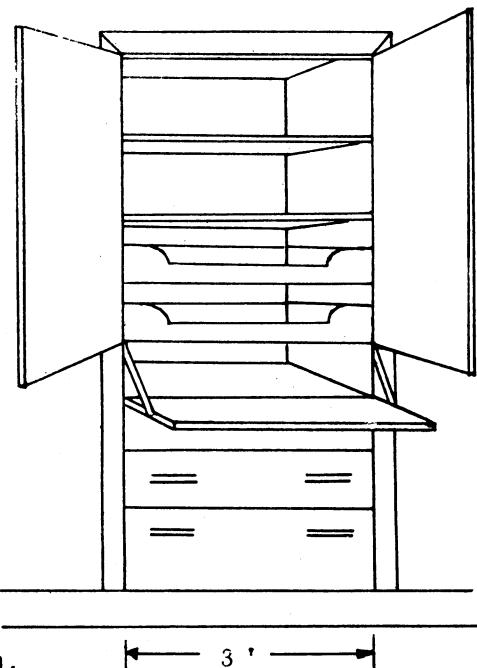
Bedding and Linen Storage: For easy access to bedrooms locate bedding and linen closet in connecting hallway:

1. Limited:  
2'-0" wide x 16" deep by 7'-0" high.  
6 shelves, approximately 12" apart.  
Enclosed by door or doors.

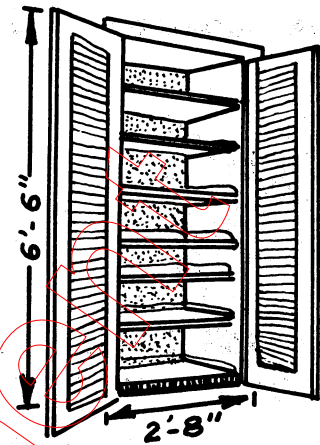
2. Medium:  
2'-6" wide x 16" deep by 7'-0" high.  
6 shelves, adjustable.  
Enclosed by door or doors.

3. Liberal:

3'-0" wide x 2'-0" to 2'-6" deep by 7'-0" high. Two specialized closets may be desirable. The linen cabinet may then be 16" or 24" deep by desired width.



- 4 or more shelves, adjustable.
- 4 or more sliding trays.
- Drawer storage in addition is recommended.
- One drop-leaf drawer front or pull-out board for sorting unlike items.
- Enclosed by door or doors.



## YOUR WORK AREA SPACE REQUIREMENTS

### I. KITCHEN AREA

#### A. Space for Feeding the Family

Every family housing unit must provide for food preparation, cooking, eating clearing away and storage of food. Many family houses must also provide for food preservation.

#### 1. Clear Floor Space and Traffic Lanes

Research studies have shown that certain amounts of clear floor space are essential or desirable for the working area of any kitchen. Too little clear floor space crowds the worker against opened cabinet drawers or doors; too much clear floor space causes needless walking and time loss.

#### 2. Traffic Lanes

"Work triangle" outside major traffic lanes.

Not more than two doors in the kitchen area--excluding closet door. These doors should be placed so as not to interfere with normal activities.

Traffic lanes at least 3 feet wide.

#### 3. The "work triangle"

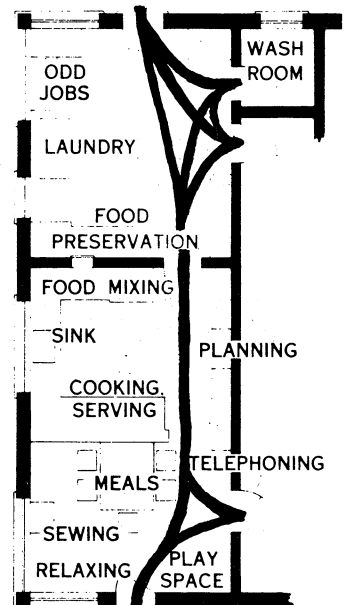
Sink to refrigerator: center front to center front --4 to 9 feet.

Refrigerator to range top: " " " " " --4 to 11 feet.

Range top to sink: " " " " " --4 to 8 feet.

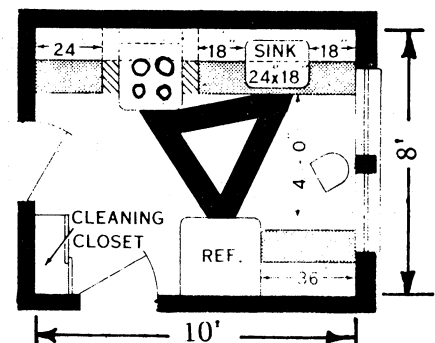
Total distance (sum of three distances) --12 to 26 feet.

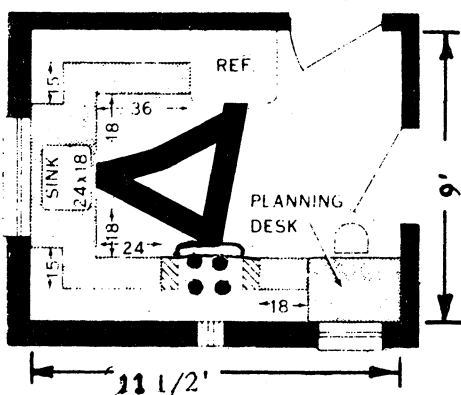
Separate oven outside these dimensions if shorter ones used.



Limited: 4'-0" clearance in front of each piece of equipment of work counter for freedom of movement for one worker. 3'-0" clearance between cabinets set at right angles to each other but separated by a passageway or work area.

Medium: 5'-0" to 7'-0" clearance in front of each piece of equipment or work counter for freedom of movement for two workers and for more effi-





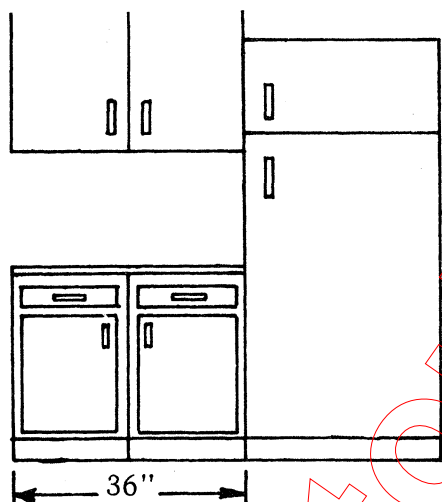
cient arrangement of equipment in some basic kitchen types.

**Liberal:** Equipment and counters arranged around three sides of 5'-0" or more clear floor space so that sum of the distance between center fronts of the three major appliances (work triangle) totals between 12'-0" and 26'-0".

## B. Grouping of Work Centers

Each work center is composed of the appliance, base cabinet, counter and wall cabinet necessary for major processes involved in that area of activity (mixing, sink work, cooking.) Each well-defined center contains all the supplies and utensils stored at the point of first use.

Work centers that are closely related in function of equipment or counter space needed may be combined to save space.



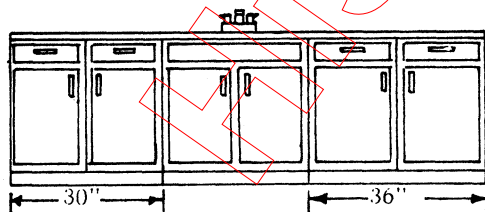
### 1. Work Surface

At least 2' of continuous work surface adjacent to each major appliance. 15" beside opening side of refrigerator and 18" of heatproof surface beside a wall oven is minimum.

Two continuous surfaces of 3' or more at least 18" deep.

At least 8' of work surface at least 18" deep.

Clearances of 13" to 16" above work surfaces, and 24" above sink, range, and top opening dishwasher or clothes washer.



2. Mixing Center: Refrigerator and 3'-0" to 4'-6" counter and cabinet space for mixing and other food preparation jobs.

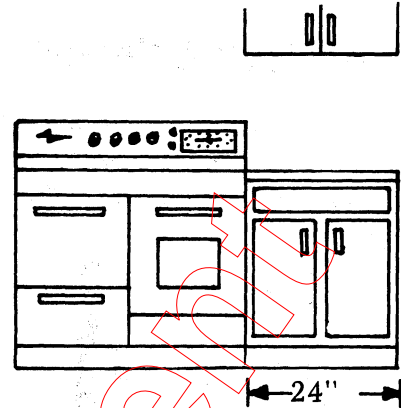
3. Sink Center: Sink bowl plus 3'-0" counter to the right for vegetable preparation and for dish stacking; 2'-6" to left for dish draining and drying. Cabinet under counter and dish storage cabinet above counter complete the center.

4. Range Center: Range plus 1'-6" to 2'-0" base cabinet, counter and wall cabinet for storage of utensils and foods used first at the range.

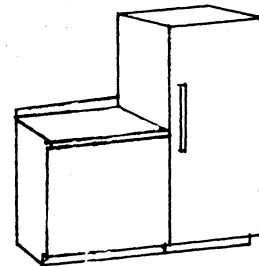
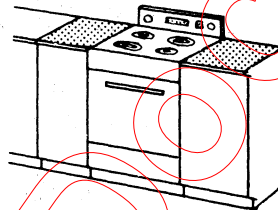
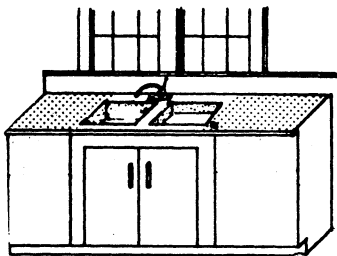


5. Direction of Work Flow: Such a sequence of work centers normally progresses from right to left-- mixing center, sink center, range and serving center. Such organization of work centers saves motion and time for a right-handed person and prevents possibility of cross traffic.

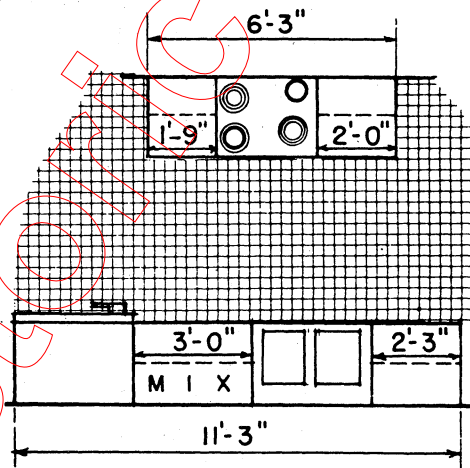
For left-handed homemakers, reverse the whole sequence of work centers so that work flows from left to right.



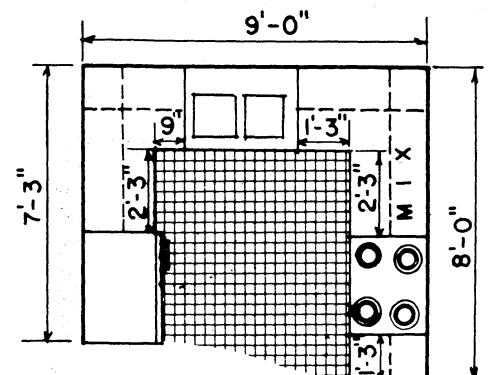
Limited: Locate each major appliance (refrigerator, sink, and range) adjacent to one base cabinet, counter and wall cabinet necessary for that major work process.



Medium: Locate at least two kitchen work centers in a continuous sequence, unbroken by doors or traffic-ways.



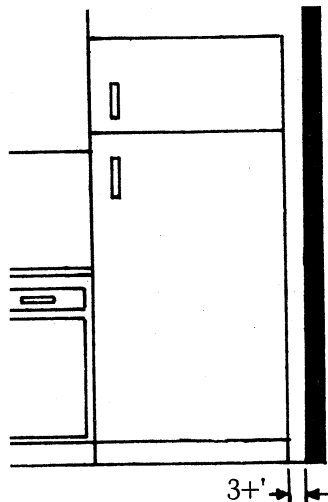
Liberal: Locate the three major work centers in a continuous "production line" of appliances, with adjacent cabinets and counters, unbroken by doors or traffic-ways.





### C. Space for Major Appliances:

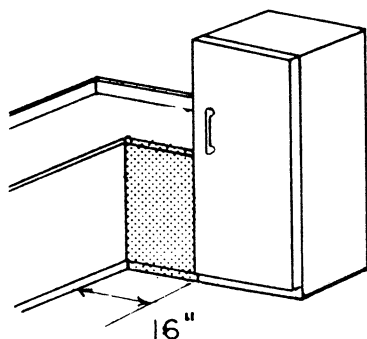
Manufacturers of major kitchen appliances have coordinated sizes with other kitchen dimensions. The planner of any given kitchen can make a better related unit by keeping the major appliances and work centers "to scale" or in harmony of size, one with the other.



1. Refrigerator: Wall space 3'-0" wide.  
This allows "breathing space" along one side for economical operation of the refrigeration unit.

For free-standing built-in type refrigerator -- side or top clearance, as part of refrigerator design, includes ventilation space.

Locate refrigerator adjacent to mixing center with door latch opening next to counter. Provide at least 16" of clearance between the latch side of the refrigerator door and the turn of the counter.



2. Sink and/or Dishwasher

- (a) Location: Install sink so that nearer edge of bowl is 2'-0" to 3'-0" from corner of room, and never less than 12" from turn of the counter.

Keep sink size in scale with size of other centers. Drainboards may be omitted if waterproof counter tops adjoin sink. Use no more than 1/4 of total counter top area as drainboard in any installation. For each drainboard allow 16" width.

- (b) Double Bowl: For dishwashing by hand install double bowl sink, 32" to 38":  
for convenience  
to eliminate dishpan use and storage  
with shallow bowl for washing, deep bowl for rinsing (recommended and available)

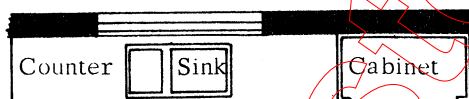
- (c) Drainboard and/or Dishwasher:

For righthanders, locate drainboard and/or dishwasher on left of sink bowl.

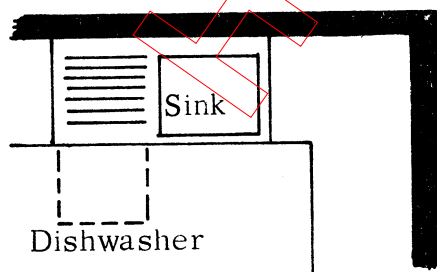
For left-handed persons reverse direction of the whole work sequence.

24" undercounter space for dishwasher.

Portable dishwasher requires 24" space but supplies detached, useable counter space.



Dishwasher



Limited: 24" to 32" space for single or double sink bowl--24" drainboard (optional)

2'-0" counter on right and 18" on left side of sink.

Medium: 32" space for double sink bowl.

2'-6" counter either side of sink for installation of cabinets at right angles to sink counter. This provides 14" clearance between center of sink bowl and turn of the counter for standing.

Liberal: 36" space for double sink bowl--32" drainboards (optional)

3'-0" counter either side of sink, for use of revolving corner cabinet or diagonal corner cabinet or space for drawer unit between sink and inside corner of cabinet. For a dishwasher allow 24" either to the left or right of the sink.

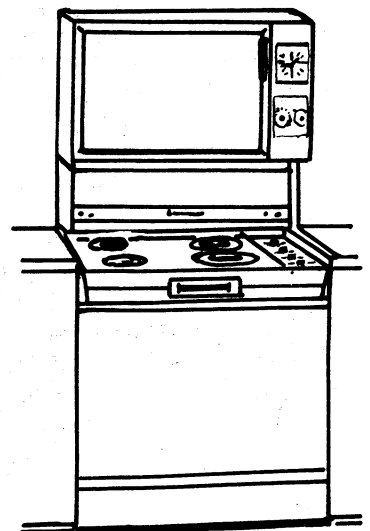
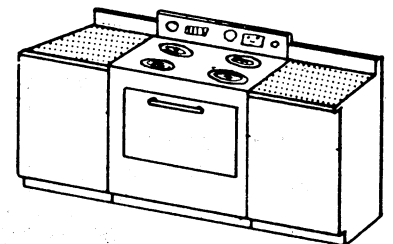
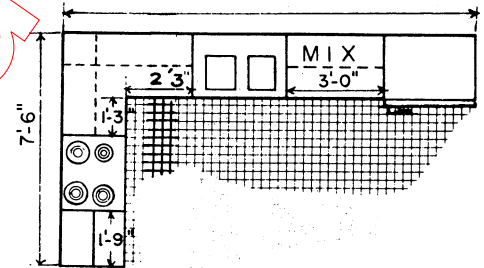
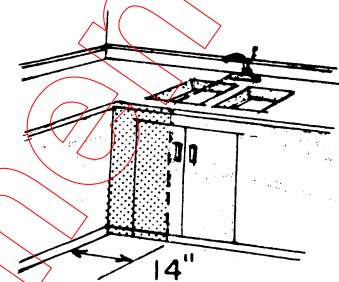
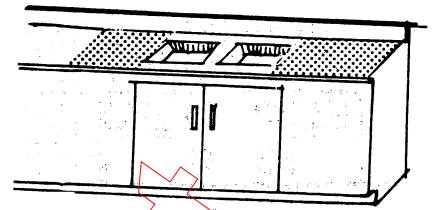
3. Range: Electricity and gas are generally accepted as preferable cooking fuels because of their speed, cleanliness and ease of installation. (It is recognized that in some instances wood, coal, or oil may be the only fuel available for use. Installations not covered by these guides should be made by established, reputable contractors. For space requirements for wood and coal or combination ranges, request leaflet entitled "Cottage Installations for Cooking Equipment Using Wood or Coal.")

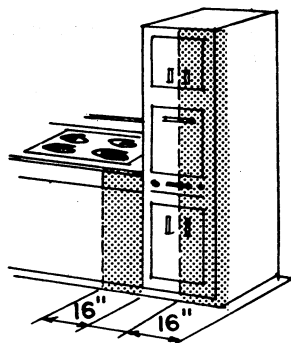
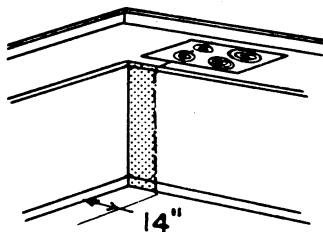
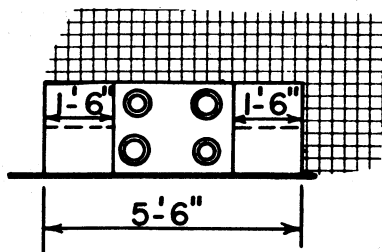
(a) Gas or Electric Range - Table Top Cabinet

Type or Drop-in Range: Table top ranges are available in three general sizes: apartment range 18" -24" width, 30-inch range, and standard range 36"-60". Floor space 36" to 42" in width by 2'-6" in depth for standard range having four burners, standard oven and warming or storage drawers.

\*Allow 3" to 5" of free space at either end of range for necessary cleaning and for maintaining acceptable sanitation, or

\* Connect cabinet to range by use of a heat-proof union strip such as stainless steel.





#### (b) Gas or Electric Built-in Surface Units

Surface units--built into counter top of cooking center.

Available in several design arrangements.

Require adjoining counter space.

Provide 12 to 24 inches at both sides of the surface cooking area.

Provide at least 14 inches of clearance between the center of the front unit or burner and the turn of the counter for standing.

Provide at least 16 inches of clearance between the center of the front unit or burner and a wall or high equipment.

#### (c) Gas or Electric Built-in Oven: (built into a floor-to-ceiling cabinet.)

Located:

As part of cooking center or mixing center so that entire oven space occurs within easy reach and easy view. Built-in ovens and surface burners are suitable for liberal kitchens in the upper price brackets.

Install built-in oven so lowest rack position is about 36" from the floor.

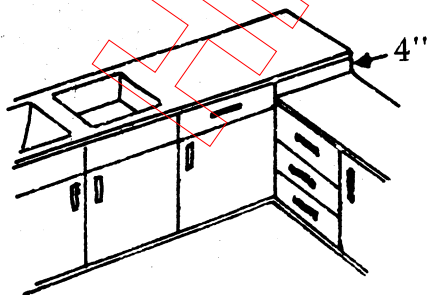
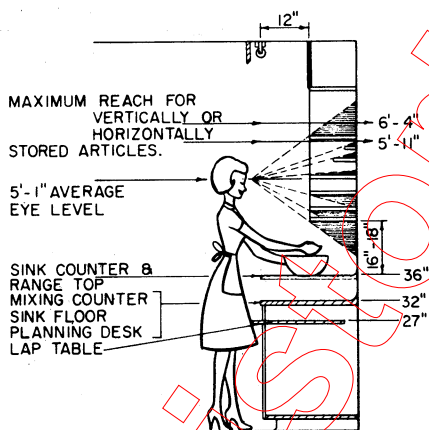
Provide 16" clearance between the center front of the wall oven and the adjoining wall.

#### 4. Base Cabinets and Counters:

##### (a) Counter Height:

Height of commercial cabinets is generally established at 36", but counter height of 32" to 38" may be required to meet good posture needs of various figure types.

Recessed base is commonly 4" high and recessed 4" under cabinet front. "Toe space" in cabinet base is necessary to stand up to base cabinets and retain erect posture.

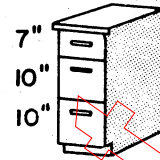


##### (b) Variations in Counter Height:

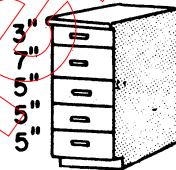
Convenient heights vary with the job. Mixing, heating, and kneading (the mixing processes) require lower cabinet level to prevent fatigue. In dishwashing the bottom of sink bowl becomes work level. Bottom of sink is often too low and causes stooping. Since sink bowls are commonly 6" to 8" deep and sink rim must be level with countertop, some compromise with counter top height is necessary.

With 36" standard counter top, get variable heights by:

- (1) Choosing sink bowl depth to allow 30" to 32" from bottom of sink to floor. This is a good height for most women.
- (2) Raising counter to 38" by increasing height of recessed cabinet base to 6".
- (3) Providing lap table 24" to 28" above floor level. This allows good working posture while seated in a comfortable kitchen chair.
- (4) Lowering counter height of mixing center cabinet when not along same wall as sink cabinets.
  - use cabinet made to special order
  - reduce height of recessed base to 3".



VEGETABLES, FRUITS,  
EXTRA SUPPLIES

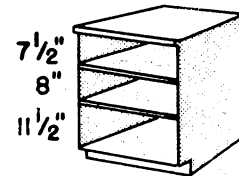


LINEN, BREAD,  
SILVER

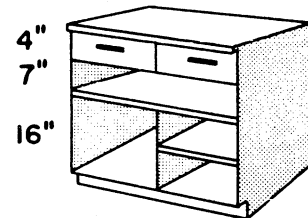
(c) Base Cabinet Frontage:

Limited: 8'-0" to 10'-11" base cabinet frontage

- (1) One cabinet and counter adjacent to each major appliance.
- (2) One counter 3'-0" long on one side of sink.
- (3) Counter 2'-0" to 3'-0" long other side of sink.
- (4) Of 8'-0" total cabinet frontage count only 2'-0" that is located under sink.
- (5) Four drawers under one work counter for frequently used items: one 4" deep drawer for small kitchen tools.
- (6) Remaining space below counters for additional drawers, shelves, sliding shelves, vertical files, bins or other types of enclosed storage.



ALL POTS, PANS



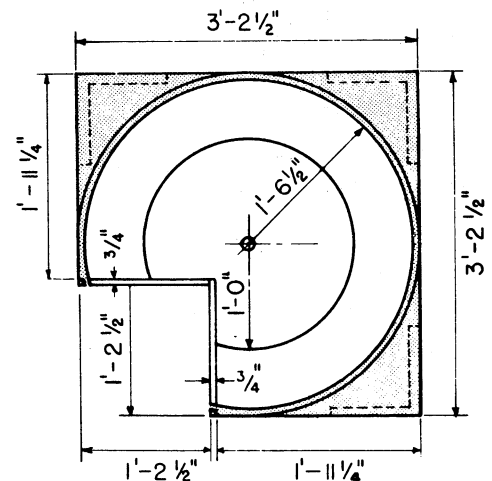
MIX UTENSILS

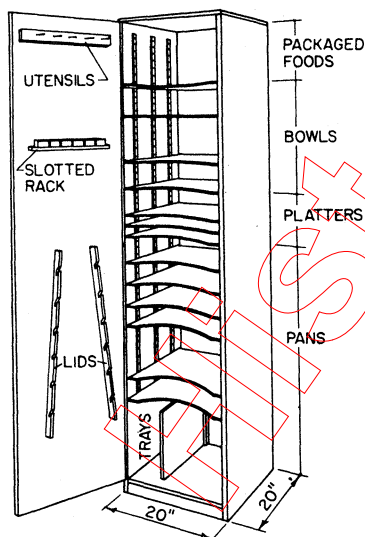
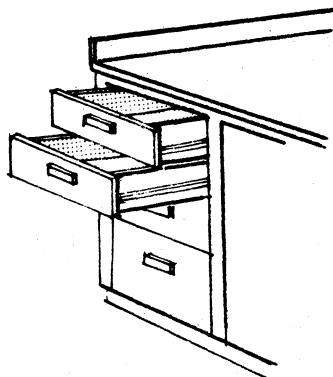
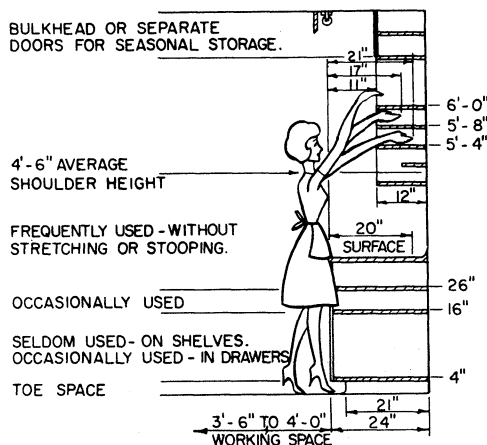
Medium: 11'-0" to 13'-5" base cabinet frontage

- (1) 3'-0" to left of refrigerator which may be the same 3'-0" to right of sink (double use).
- (2) 2'-6" to left of sink.
- (3) 2'-0" adjacent to one side of range.
- (4) Of 11'-0" total, count no more than 2'-6" located under sink.
- (5) Meet requirements (5) and (6) under Limited and include one revolving corner unit.

Liberal: 13'-6" or more base cabinet frontage

- (1) 3'-0" to left of refrigerator.
- (2) 3'-6" to right of sink (no overlapping, please!)
- (3) Of 13'-6" total, count no more than 2'-6" located under sink. 2'-6" to left of sink.
- (4) 4'-0" adjacent to range for cookserve counter.
- (5) Meet requirements (5) and (6) under Limited, and include one or more revolving corner units.





## 5. Wall Cabinets:

Wall cabinets provide storage space for frequently used sizes of mixing bowls, casseroles, platters, everyday dishes, baking pans and other utensils, as well as for packaged food and seasonings in regular use. These cabinets should provide spaces that are easy to see; easy to reach; and easy to grasp.

### (a) Storage

(1) 9' to 14' of wall cabinets, 30" high set not over 15" above base cabinets, plus 8' to 14' of base cabinets.

or

(2) 10' to 14' of storage 4" to 1' deep, 4' high (2/3 between 20" and 68" from the floor), plus 2' to 4' of storage 18" deep and 4' high with 2/3 between 20" and 68" from the floor.

(3) At least four drawers (two 3" deep and 12" to 18" wide, two 6" deep and 15" to 18" wide.)

(4) Storage for small appliances, utensils, tools, dishes, ingredients, etc., that is readily accessible at point of first use. The more frequently an item is used, the greater the need for easy accessibility.

### (b) Wall Cabinet Frontage

Limited: 6'-0" to 8'-5" cabinet frontage (storage for limited supplies in minimum space).

(1) 11" to 13" wall cabinet depth, front to back, allows single row storage of common sizes of utensils, dishes and packages regularly stored above counter level.

(2) Total of 6'-0" wall cabinet frontage is exclusive of cabinets over range or refrigerator, for such cabinets are generally too high for easy reach and have very limited use.

(3) Hang wall cabinets with 14" to 16" clearance above work counters for:

Use of large equipment, including electric mixer.

Easy reach into all shelves.



(4) Locate top shelf not more than 6'-0" above finished floor.

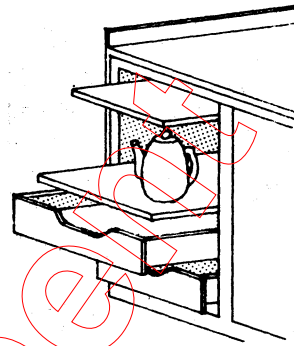
(5) Provide 24" clearance under cabinets above sink or range for:

Working freedom and/or  
Fire safety.

(6) 3" to 12" clearance under cabinets above refrigerator for:

Breathing space of refrigerating unit.  
Possible purchase of taller refrigerator.  
Exception may be made if refrigerator has built-in exhaust.

(7) Place any 4" to 6" deep shelves 12" above sink or range, or 8" above any other counter top.

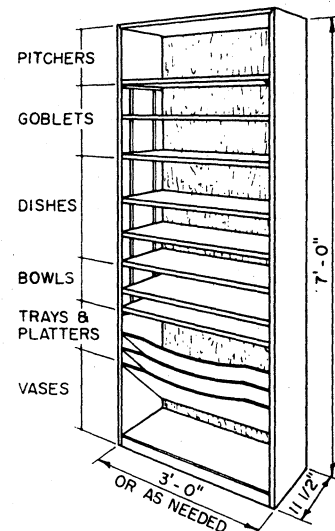


**Medium:** 8'-6" to 9'-5" wall cabinet frontage (storage for liberal supplies in minimum space or limited supplies in ample space):

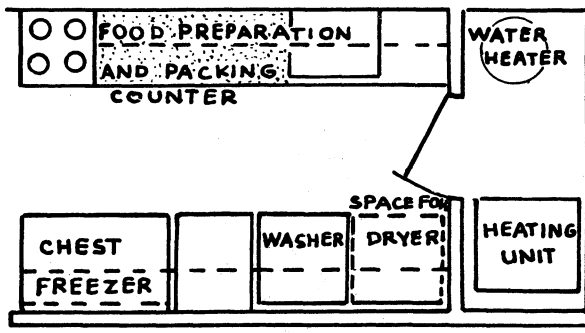
- (1) 2'-6" wall cabinet for supplies and utensils in the sink-mixing center.
- (2) 4'-0" dish cabinet for dinnerware for eight.
- (3) 2'-0" wall cabinet at the range-serve center.
- (4) Conform to height and depth standards listed under Limited.

**Liberal:** 9'-6" wall cabinet frontage (storage for liberal supplies in ample space):

- (1) 2'-6" wall cabinet at mixing center.
- (2) 1'-0" wall cabinet at sink center in addition to mixing center cabinet.
- (3) 4'-0" dish cabinet for dinnerware for eight.
- (4) 2'-0" wall cabinet at the range-serve center.
- (5) Conform to height and depth standards listed under Limited.







## II. WORKROOM AREAS

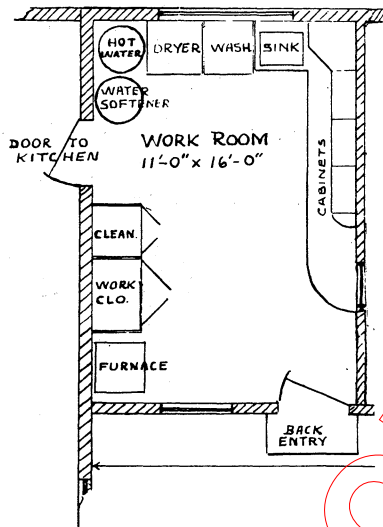
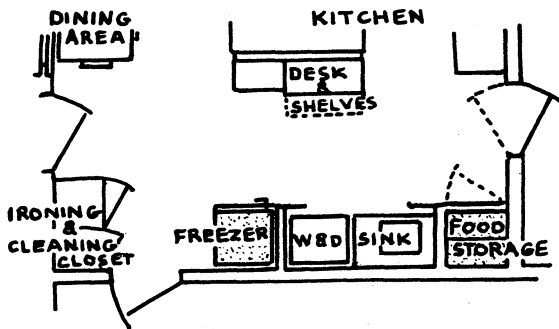
Workroom and utility space make provision for:

- \* Laundry--care of clothing and household textiles
- \* Food processing and storage activity
- \* Wash-up space and storage of work clothes
- \* Cleaning equipment

Limited space: 80 to 100 square feet floor area; enclosed heated work porch or work area separate from food preparation area of kitchen, or work area in basement having outside exit.

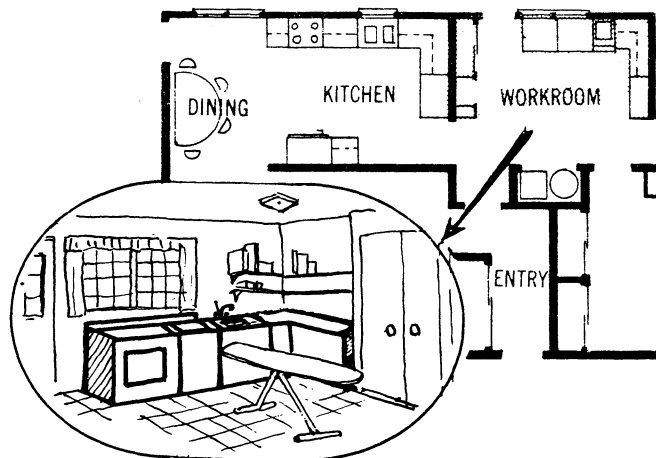
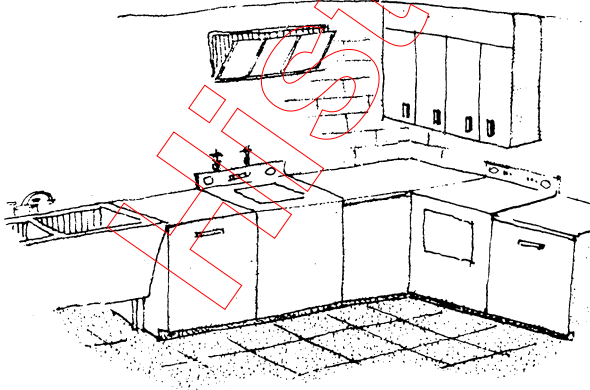
Medium space: 100 to 140 square feet floor area; work area at least partially separate from kitchen, but on same floor level.

Liberal space: 140 to 200 square feet floor area; work area in separate room from kitchen on same floor level.



### Plan Ahead for These:

- \* Good general lighting for all work areas, day and night (50 foot-candle lighting level at each work center).
- \* At least one duplex electric appliance outlet for each work center.
- \* Individual equipment circuits for washer, dryer, ironer, water heater, freezer.
- \* Adequate hot water (140° F. or more).
- \* Venting for a dryer.
- \* At least 1 inch side clearance for servicing of each appliance, plus 1/2 inch for each additional appliance when placed together.



## A. Laundry Area

### 1. Arrange equipment. Follow pattern of use between pieces.

#### a. Use is greatest between:

- \* Soiled clothes storage and sink;
- \* Sink and washer;
- \* Washer and dryer; right-handed persons (85% population) prefer dryer to right of washer;
- \* Dryer and clean unironed clothes storage.

#### b. Water heater and water conditioner (may be in laundry or basement) 2'-6" x 2'-0" each.

#### c. Piped hot and cold water connections; faucets (with hose bibbs above washer location) and at deep sink or laundry tub.

### 2. Work space and traffic lanes.

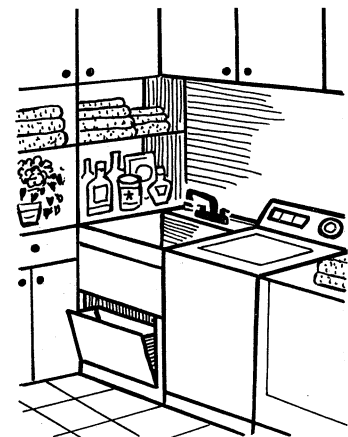
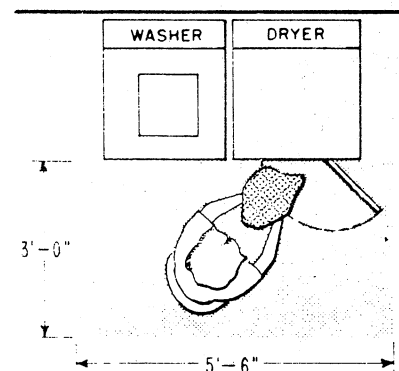
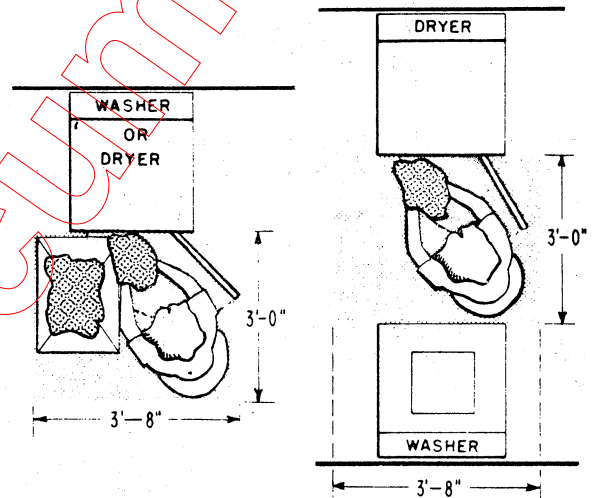
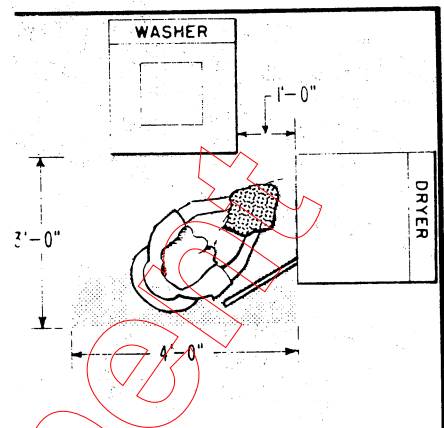
- a. Work space in front of appliances, 3'-0" minimum, 3'-6" preferred.
- b. Traffic lanes 2'-3" in addition to minimum work space.
- c. For using ironing board, 6'-0" by 4'-3" (seated) or 3'-6" (standing), including board.
- d. For using ironer, 5'-0" by 4'-6", including ironer.
- e. For using non-automatic washer, 7'-0" by 8'-6" including equipment.

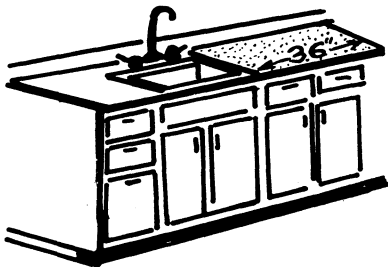
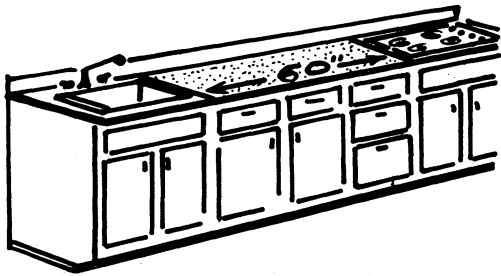
### 3. Work surfaces:

- a. Allow 10 sq. ft. surface for sorting soiled items, pretreatment and folding from dryer.
- b. May include top of washer, dryer, table, or counter.

### 4. Storage for laundry (not necessarily in one place):

- a. Storage near place of most frequent use for detergents (large size), bleaches, starch, dyes, stain removers, clothespins, and hangers (for drip-drying or ironing).
- b. Clothesbasket and/or cart and place to store.
- c. Collection place or places for soiled clothes (hampers, sorting bins, bags, etc.)
- d. Storage near place of use for ironing board (and ironer if used), iron, distilled water,





sprinkling equipment.

- e. Sink for pretreating clothing, hand washing and other workroom uses.
- f. Place for drip-drying of clothes.
- g. 20' of clothesline per person (lines 8" apart minimum) if no dryer.

## B. Area for Processing Food

### 1. Space for food freezer in workroom.

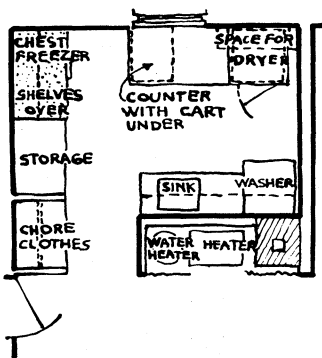
- a. Chest freezer requires 6' to 10' x 2'-6".
- b. Upright freezer requires 3' to 4' x 2'-6".
- c. Clearance in front of either type is 3'-0" minimum.

### 2. A counter 3'-0" wide by 2'-0" deep beside the sink provides sufficient space for preparing foods and for washing the containers.

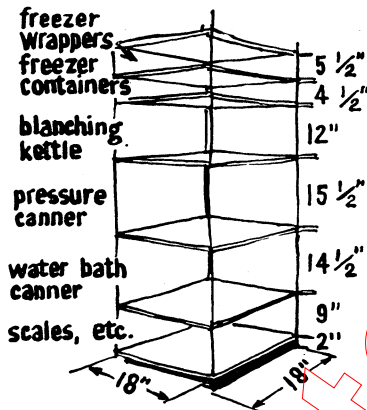
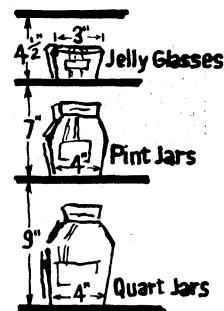
- a. The top of a chest freezer or washer, if protected by a covering, may also be used.
- b. A single counter 5'-0" wide provides space enough for all the work involved.

### 3. Canned food needs to be stored in a dark, dry place, preferably where the temperature is between 50° and 60°. The number of jars to be stored determines the length and depth of shelving needed.

- a. Use 1" thick shelving or 5/8" thick plywood. For spans greater than 3'-0", add center supports.
- b. Dimensions in the drawings are suggested for shelves used to store freezing and canning supplies and equipment.



#### DISTANCES BETWEEN SHELVES

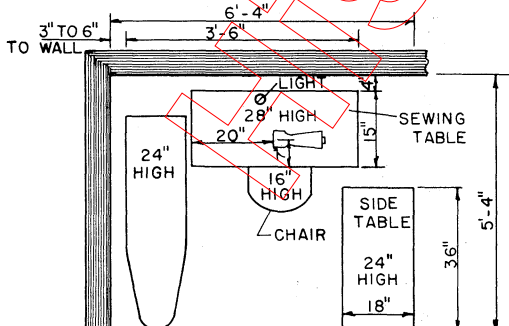


## C. Space for Home Sewing

The workroom is a good location for sewing if space, lighting and storage are provided and if the workroom is not also a hallway.

### Limited:

1. A well-lighted space 5'-0" x 4'-0" for use of ironing board and/or sewing machine.
2. Space 3'-0" x 1'-6" for storing sewing machine.
3. The back of a door equipped with hooks, shelves and bins provides convenient, inexpensive storage for sewing supplies.



Medium or Liberal:

1. A well-lighted space 5'-0" by 6'-0" for ironing or sewing.
2. Storage space for ironing board and sewing machine.
3. Store a portable sewing machine so it can be easily set up for use. (In the drawing, the machine slides onto a low, multi-purpose counter top.)
4. Allow at least 3'-0" of space for a chair in front of a sewing machine.
5. For small sewing equipment and supplies, allow cabinet, shelf or drawer space near sewing area -- see drawing.
6. For layout and cutting, either a portable folding surface or a table top 36" by 56" to 72" is needed.
7. Locate duplex electric outlets within easy reach of steam iron, sewing machine, or other equipment.
8. Mirror 16" x 42" with top 70" above floor; clearance of 8'-0" allows fitting and viewing.

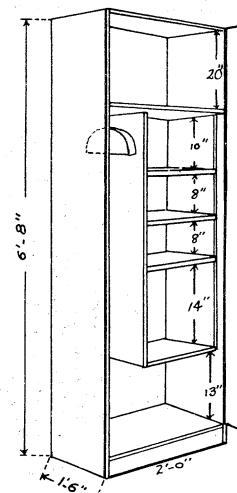
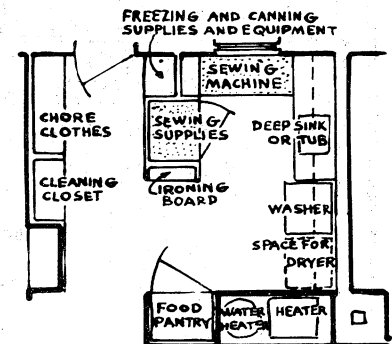
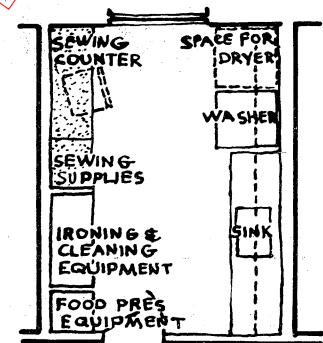
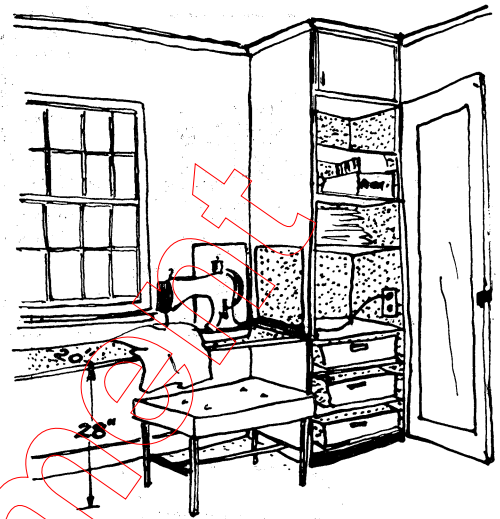
D. Cleaning Closet (accessible from all rooms.)

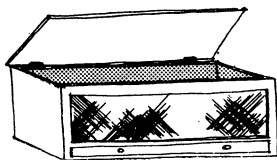
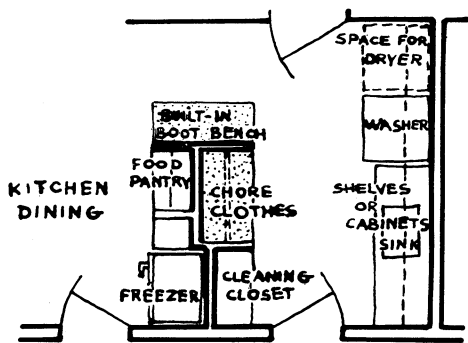
Limited:

1. A space 2'-0" wide x 16" deep x 7'-0" high for brooms, mops, pail and other cleaning equipment and supplies:
  - a. 5'-0" high free hanging space for long handled cleaning tools.
  - b. One shelf above hanging space.

Medium or Liberal:

1. A space 3'-0" wide x 2'-0" deep by 7'-0" high.
  - a. 5'-0" high free hanging space for tools.
  - b. Fit space with hooks or friction catches for equipment that will hang; use semi-circular support for flexible hose attachment or vacuum cleaner.
  - c. Attach stack of shelves on one closet wall for cleaning supplies, basket and pail.
  - d. Include 5" wide vertical slot for storing ironing board.
  - e. If desired, provide separate 1'-0" wide vertical section for ironing equipment. Include vertical space for storing ironing board. Use asbestos board shelf for irons and shelf for small pressing equipment across tops of both vertical sections of closet.





## E. Work Clothes Closet

### Limited or Medium:

1. Work clothes closet 3' x 2' x 7' high near back door for work clothes, work shoes and boots.
  - a. Clothes rod 63" above closet floor
  - b. Hooks for overalls
  - c. One or two shelves above clothes rod
  - d. Slatted rack for boots and shoes
  - e. Door rack for caps and gloves
  - f. Perforated door for ventilation

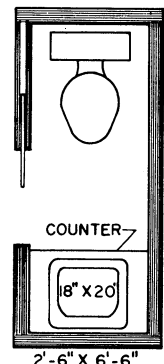
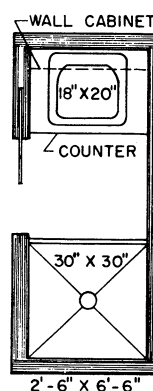
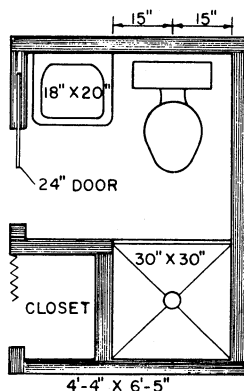
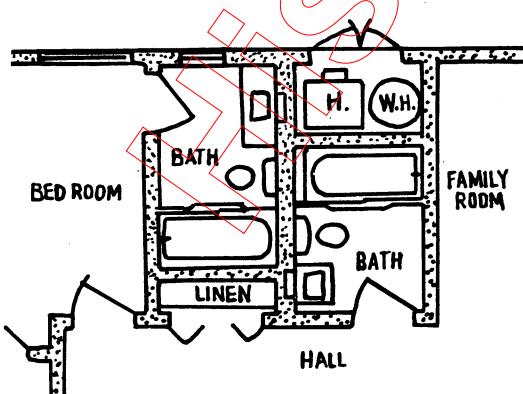
### Liberal:

1. Work clothes closet 4' x 2' x 7'-0".
  - a. Mechanically vented through ceiling or upper wall, as well as through perforated door.
  - b. Also meet standards set up under Limited.
  - c. A built-in, well-ventilated boot storage bench keeps boots out of sight and provides a place to sit.



## F. Washroom-Bath

1. Enclosed washroom-bath adjoining workroom (near family entrance)
  - a. Shower cabinet
  - b. Toilet
  - c. Counter top lavatory
  - d. Three or more shelves, open or enclosed, for towels and supplies
2. Always locate one complete bathroom where it can be reached from a hallway.



INSIDE CLEAR DIMENSIONS